# The U.S. Census Bureau's International Programs: Capacity Building, Analytical Products, and Tools for Evaluation

U.S. Department of State
Fourth Annual Conference on Program Evaluation
June 7-8, 2011
George C. Marshall Center



## International Technical Assistance

Population Division U.S. Census Bureau



### What We Do

Promote international development and capacity building on a reimbursable basis through

- Technical assistance
- Training and statistical development
- Software and methodological tools development



### Technical Assistance

- Helping to build statistical capacity through collaboration with counterparts and counterpart statistical agencies around the world
- Increasing availability of data to support policy formation, program design, monitoring, and evaluation
- Supporting data collection, processing, analysis, and dissemination and use



## Examples of Technical Assistance Projects

- Zambia 2010 Census of Population and Housing
- India Census 2011
- Sudan Household Health Surveys: 2006 and 2010
- Guyana strengthening of national system of social statistics: 2006-2009



## Training Programs

Data processing, demographic, and statistical training conducted in a workshop setting designed to convey concrete practical skills and build capacity

- Regional training multi-country workshops addressing the training needs in a particular region
- Training programs hosted in Washington
- In-country workshops
- E-learning



## **Examples of Workshop Topics**

- Census planning and management
- Questionnaire content and design
- Improving data quality
- Census and survey data processing (CSPro)
- Geographic Information Systems (GIS)
- Data dissemination
- Demographic analysis
- Population projections



## Software and Methodological Tools Development

- Census and Survey Processing System (CSPro) -- a public-domain software package for entering, editing, tabulating, mapping and disseminating census and survey data
- Tool for Assessing Statistical Capacity (TASC) a set of questions and weighted responses designed to measure capacity of a national statistical office to conduct population censuses and recurring household surveys



### **CSPro**

- First released in 2000 still growing
- Used in over 100 countries worldwide
- De facto standard for census and survey data processing in developing countries
- Used to process DHS, MICS, LSMS, other families of large-scale household sample surveys
- U.S. Census Bureau provides customer support and training
- Public domain may be downloaded and freely distributed at no cost



### **TASC**

- Quantitative approach to measuring statistical capacity
- Over 150 questions organized into 9 topical areas
- Allows for cross-country comparisons
- Allows for "before and after" measurements
- Self-administered by staff in a workshop setting
- Piloted in Tanzania and Jordan in 2011 well received
- Revisions after each pilot

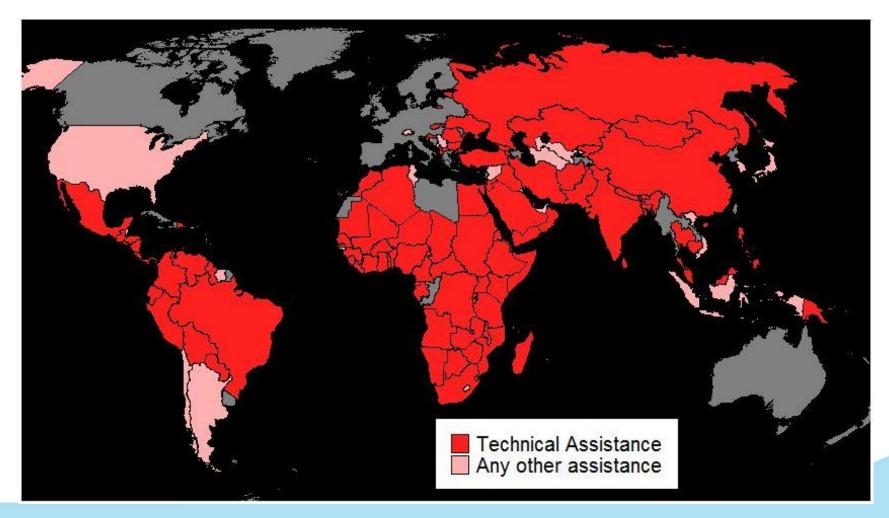


### How We Work

- Reimbursable basis with donors such as USAID, UN, World Bank
- Long history of international technical assistance dating back to 1946
- Established relationships with national statistical offices and key staff
- Current country projects in Angola, Bangladesh, Djibouti, India, Jordan, Kenya, Mozambique, Senegal, Southern Sudan, Tanzania, Zambia



## Where We Have Worked





## International Demographic and Economic Studies

Population Division U.S. Census Bureau



## Demographic and Economic Research Program

- Population estimates and demographic trends, 228 countries and areas
- Subnational projections, by age and sex, for selected countries
- Sample vital registration
- Aging in an international context
- HIV/AIDS trends and population impacts
- Economic status and trends, pensions



### **Sources of Data**

Our estimates and projections are based on:

- Census and survey data from each country
- Vital registration data
- Other administrative records
- Data from international organizations such as the United Nations High Commissioner for Refugees (UNHCR)
- Other sources of information regarding the country (e.g., wars, famines, epidemics)



## **Recent Analytical Products**

- Assessment of the impact of Indonesia's tsunami
- Subnational projections for Nigeria, Iran, Iraq, India, China and cities around the world
- Evaluation of the 1997 Iraqi census
- Pakistan's diaspora
- The demography of malnutrition in North Korea
- The population impacts of Cyclone Nargis in Burma



### **U.S. Census Bureau Tools**

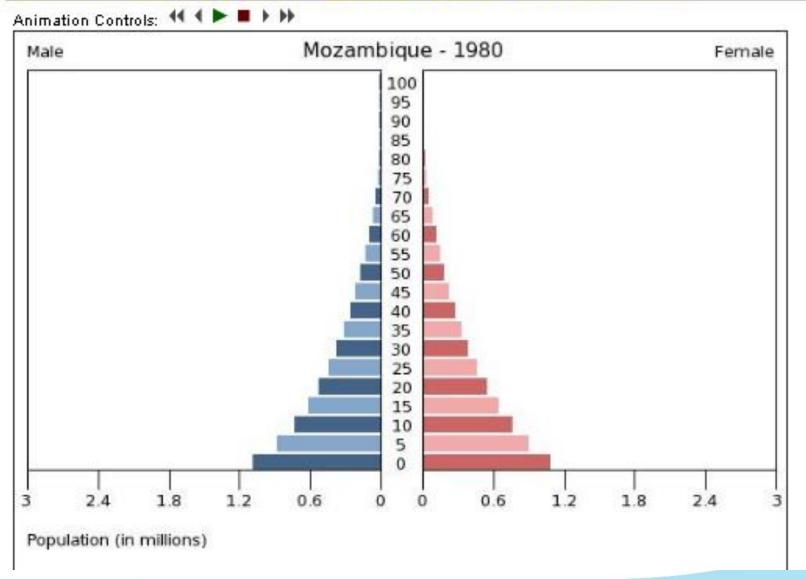
- International Data Base (IDB)
- Population Analysis Spreadsheets (PAS)
- Rural Urban Projections (RUP)
- HIV/AIDS Surveillance Data Base
- Sample Vital Registration with Verbal Autopsy (SAVVY)



### What is the IDB?

- Demographic data from the estimates and projections developed by the Census Bureau
- Started in the early 1980s on a mainframe
- Moved to PCs in the early 1990s
- Started on the web in 1996
- One of the most popular sites on the Census Bureau website at:
  - www.census.gov/ipc/www/idb/







## Census Bureau's Work on HIV/AIDS

- HIV/AIDS Surveillance Data Base
- UNAIDS Collaborating Center
- Analyses of patterns, levels, and trends of HIV/AIDS infection in developing countries
- Incorporation of impact of HIV/AIDS into population projections for selected countries



## What Is the HIV/AIDS Surveillance Data Base?

- Developed in 1987
- Cumulative compilation of data from developing countries
  - HIV prevalence
  - HIV incidence
- Updated yearly
- Most complete HIV seroprevalence database
- Supported by USAID
- Current coverage and size
  - Over 200 countries
  - Over120,000 data records
  - Over 10,300 sources



#### **HIV/AIDS SURVEILLANCE DATA BASE**



#### COUNTRY AND RECORD SELECTION CRITERIA

HOME CUSTOM REPORTS MAPS HELP

Prevalence, in Percent, of Human Immunodeficiency Virus (HIV) for: Mozambique

Number of records found = 224.

Data Quality = All

Geographic Area	Reference Date	Population Sub-Group	Sex	Age	Prev. Rate	Sample Size	Virus Type	Specimen Type	Type of Test	Source ID	Comments
Alto Molocue district/ rural	2002	Pregnant women	F	ALL	6.67	300	HIV	В	UNK		Sentinel rural site: HR Alto Molocue, Located in Zambezia Province, Age range 15-49 yrs, Breakdown by age is provided.
Alto Molocue district/ rural	2001	Pregnant women	F	ALL	5	N/A	HIV	В	RAPID*2	<u>G0349</u>	Only the prevalence rate was given. Sentinel surveillance rural site: HR Alto Molocue. Located in Zambezia Province. Age range 15-49 yrs. Rapid test: Determine.
Alto Molocue district/rural	2004-2005	Pregnant women	F	ALL	14	N/A	HIV	BW	RAPID	M0872	Only the prevalence rate was given. Sentinel surveillance rural site: Alto Molocue Rural Hospital. Located in Zambezia Province. Age range 15-49 yrs. Oct. 04 - Jan. 05. Rapid test: Determine.
Alto Molocue district/rural	2007	Pregnant women	F	ALL	7	N/A	HIV	BS	ELISA*2	M1201	Only the prevalence rate was given. Sentinel surveillance rural site: Alto Molocue Rural Hospital. Located in Zambezia Province. Age range 15-49 yrs. Breakdown by age is provided. Mar Sept. 07.
Ancuabe	2001	Pregnant women	F	ALL	26.7	N/A	HIV	В	RAPID*2		Only the prevalence rate was given. Sentinel surveillance site. Located in Cabo Delgado Province. Age range 15-49 yrs. Rapid test: Determine.
Angoche district/ rural	2004	Pregnant women	F	ALL	5.7	N/A	HIV	BW	RAPID	M0872	Only the prevalence rate was given. Sentinel surveillance rural site: Angoche Rural Hospital. Located in Nampula Province. Age range 15-49 yrs. Sept Dec. 04. Rapid test: Determine.
Angoche district/ rural	2002	Pregnant women	F	ALL	7	300	HIV	В	UNK		Sentinel rural site: HR Angoche. Located in Nampula Province. Age range 15-49 yrs. Breakdown by age is provided.
Angoche district/ rural	2000	Pregnant women	F	ALL	4	300	HIV	В	RAPID		Sentinel surveillance rural site: HR Angoche. Located in Nampula Province. Attending antenatal clinic. Breakdown by age is provided.
Angoche district/ rural	2001	Pregnant women	F	ALL	5	N/A	HI∨	В	RAPID	<u>N0368</u>	Only the prevalence rate was given. Sentinel surveillance rural site: HR Angoche. Located in Nampula Province. Attending antenatal clinic. Age range 15-49 yrs.
Angoche district/ rural	2007	Pregnant women	F	ALL	5	N/A	HI∨	BS	ELISA*2	IK #4 TIO 4	Only the prevalence rate was given. Sentinel surveillance rural site: Angoche Rural Hospital. Located in Nampula Province. Age range 15-49 yrs. Mar Sept. 07.
Angonia district/ rural	2007	Pregnant women	F	ALL	6	N/A	HIV	BS	ELISA*2		Only the prevalence rate was given. Sentinel surveillance rural site: Ulongue Rural Hospital. Located in Tete Province. Age range 15-49 yrs. Mar Sept. 07.
Angonia district/ rural	2002	Pregnant women	F	ALL	11	300	HIV	В	UNK	IN ACCION	Sentinel rural site: HR Ulongue. Located in Tete Province. Age range 15-49 yrs. Breakdown by age is provided.
Angonia district/ rural	2004-2005	Pregnant women	F	ALL	13.5	N/A	HIV	BW	RAPID		Only the prevalence rate was given. Sentinel surveillance rural site: Ulongue Rural Hospital. Located in Tete Province. Age range 15-49 yrs. Oct. 04 - Jan. 05. Rapid test: Determine.
Angonia district/ rural	2001	Pregnant women	F	ALL	11.3	N/A	HIV	В	RAPID*2	<u>G0349</u>	Only the prevalence rate was given. Sentinel surveillance rural site: HR Ulongue. Located in Tete Province. Age range 15-49 yrs. Rapid test: Determine.
Barue	1998	Pregnant women	F	ALL	17.5	40	HIV	В	RAPID	<u>A0228</u>	Sentinel surveillance site. Located in Manica Province. Attending antenatal clinic. Apr. 98.
Barue district/ rural	2004-2005	Pregnant women	F	ALL	19.3	N/A	HIV	BW	RAPID		Only the prevalence rate was given. Sentinel surveillance rural site: Catandica Rural Hospital. Located in Manica Province. Age range 15-49 yrs. Oct. 04 - Jan. 05. Rapid



## Sample Vital Registration with Verbal Autopsy (SAVVY) Concept

- Continuous monitoring of vital events in a national sample of households
- Mortality events followed up with verbal autopsy interview based on WHO international standards
- Coding of cause of death by physicians
- Results: Deaths by age, sex, and cause for subnational areas

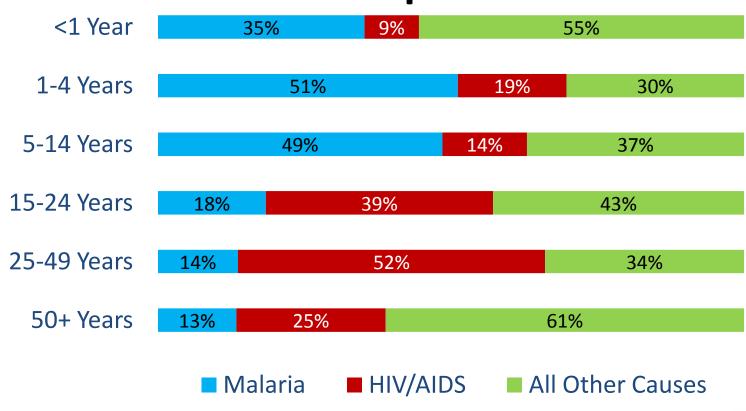


## Overview of Mozambique Post-Census Mortality Survey

- Designed to identify causes of death at the national and provincial levels by using SAVVY tools in conjunction with the 2007 census
- SAVVY Toolkit using PEPFAR core funds was developed by MEASURE Evaluation and the U.S. Census Bureau, available online
- All households in sample reporting a death in the past year were followed up with a verbal autopsy
- Verbal autopsies reviewed by trained doctors, with cause of death coded to ICD-10



## Malaria, HIV/AIDS, and Other Causes of Death by Age Group, Mozambique: 2006-2007





## Subnational Population Mapping

Population Division U.S. Census Bureau



## Subnational Population Data and Data Products

Preparation of datasets for incorporation into other projects

Oak Ridge National Laboratory's LandScan HIV Spatial Data Repository

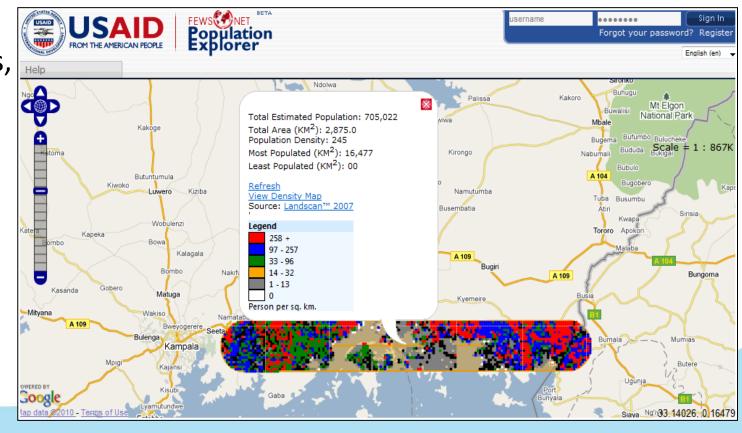
- Special purpose projects
- Demobase gridded population estimates



## LandScan Global Population Dataset

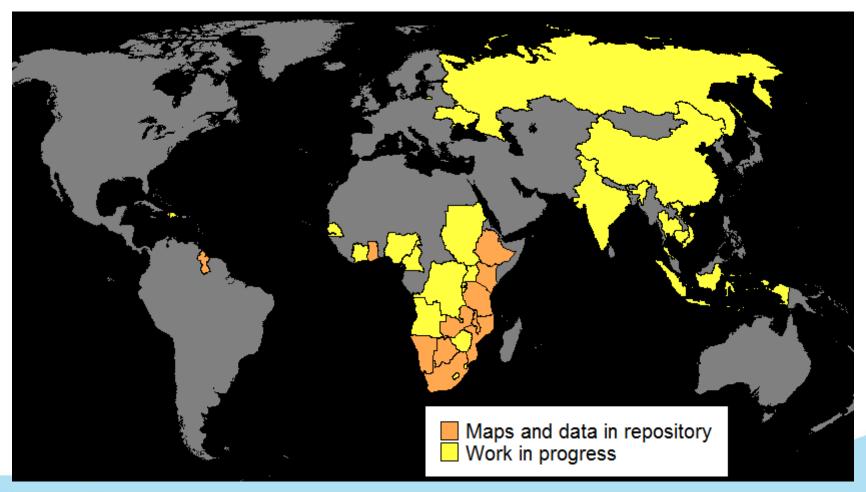
Annual, subnational population estimates by age and sex, projected to the current date

266 countries, territories, and islands; 60,000+ subnational areas





## Subnational Population Estimates and Mapping for PEPFAR



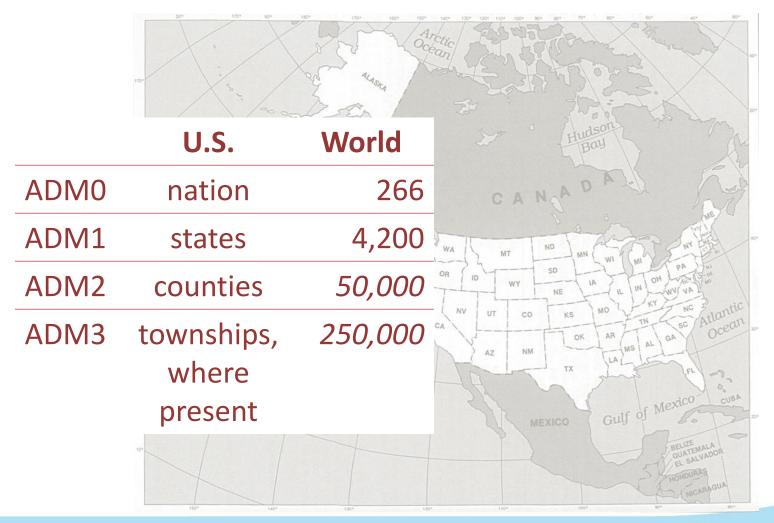


### Demobase Haiti Map Tool

To get started, watch these training videos: Site Overview, Explore Haiti, Drawing Polygons, Hurricane Tool Pop. Est. Tools Draw Polygon Map Satellite Hybrid Draw Hurricane Deactivate Refresh Map Hide/Show Basemap Caution: Clicking the basemap on/off clears the map III Geo Explorer ∏ 50 mi Need Help? Imagery ©2009 TerraMetrics - Terms of Use Legend HI Caveats Latitude: 18.05186707 Longitude: -75.20141602

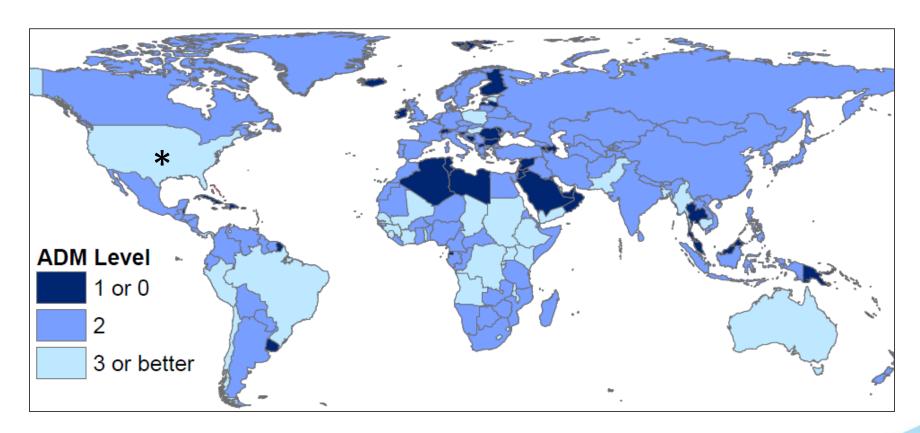


## World Administrative Unit Inventory





## Current Census Bureau Boundary Holdings



\* ADM3s do not exist in all states.



## **Building Demobase**

- High-resolution (100m) gridded population estimates, along with related demographic data
- Humanitarian assistance focus but many other uses, including national security and commercial
- Collaboration with the State Department and others
- Key challenge: preparing the data and making them easily available



## Building Demobase: Components

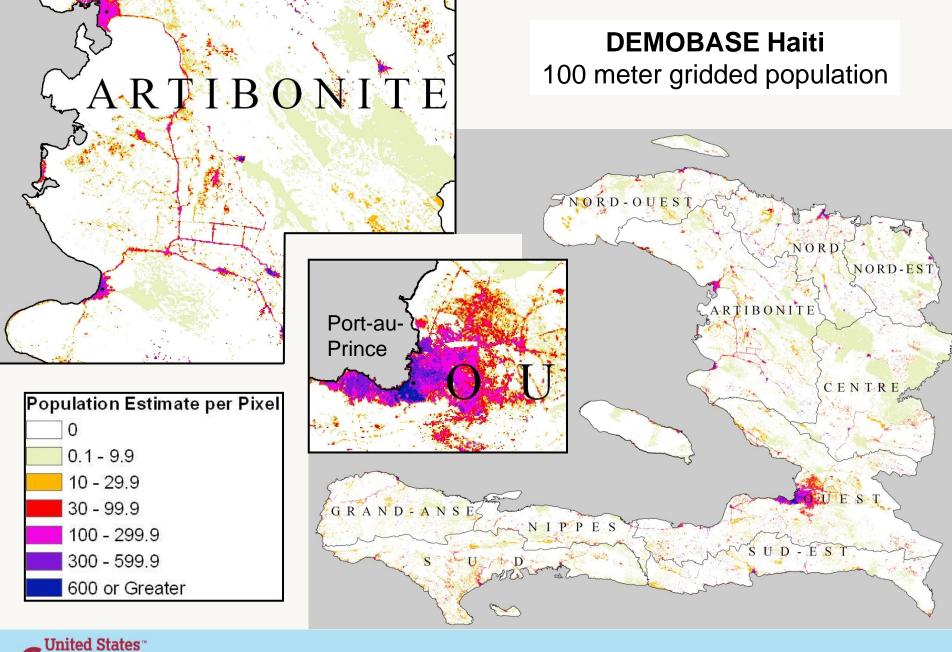
- Demographic data, with age and sex and other variables as available and needed
- Boundary files
- Satellite imagery

High and medium resolution

Mapping built-up surfaces

Distributing population within smallest ADMs





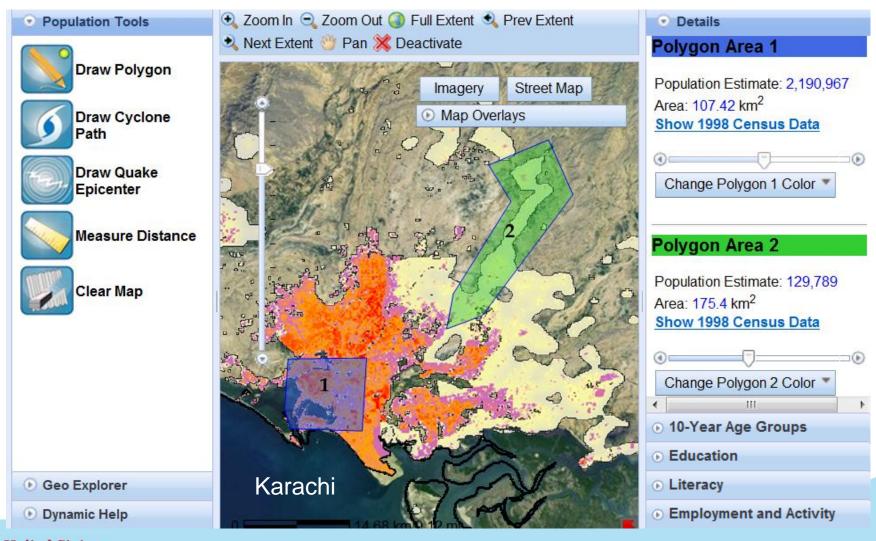


### Demobase Haiti

To get started, watch these training videos: Site Overview, Explore Haiti, Drawing Polygons, Hurricane Tool Pop. Est. Tools • Polygon 1 Population Estimate: 397,974 Draw Polygon Area: 41.331 km<sup>2</sup> Satellite Map Draw Hurricane Hide Polygon / Show Polygon / Edit Polygon Show 2003 Census Data / Hide Census Data CRGIX-DESPROUQUES Deactivate Polygon 2 Refresh Map Population Estimate: 90,125 Area: 3.004 km<sup>2</sup> Hide/Show Basemap Hide Polygon / Show Polygon / Edit Polygon Show 2003 Census Data / Hide Census Data Caution: Clicking the basemap on/off clears the map Total Population: 488,099 Total Area: 44.335 km<sup>2</sup> Geo Explorer Need Help? Legend Latitude: 18.45616283 Longitude: -72.43629456 Caveats 111

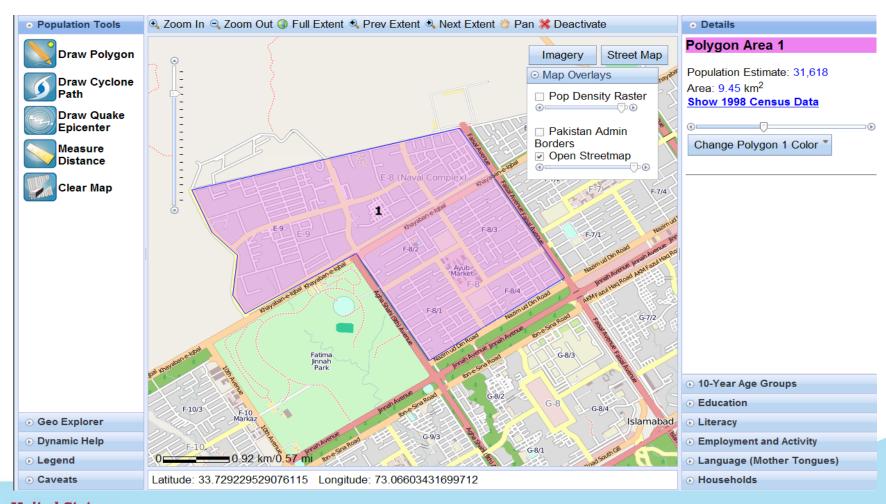


### Demobase Pakistan





## Custom Polygon Tool Following Street Lines





### Haiti: Hurricane Tool

To get started, watch these training videos: Site Overview, Explore Haiti, Drawing Polygons, Hurricane Tool Pop. Est. Tools Inner Polygon - 5,000 meters Population Estimate: 447,074 Draw Polygon Satellite Hybrid Bring to front / Hide Polygon Draw Hurricane Middle Polygon (Includes Inner) -Deactivate 10.000 meters Refresh Map Population Estimate: 1,193,062 Bring to front / Hide Polygon Hide/Show Basemap Outer Polygon (Includes Middle & Inner) - 20,000 meters Caution: Clicking the basemap Population Estimate: 2,770,913 on/off clears the map Bring to front / Hide Polygon Show 2003 Census Data **Hide Census Data** Geo Explorer Need Help? Legend وروري TerraMetrics - Terms of Us Caveats Latitude: 17.96305758 Longitude: -72.58117676 III



### **Contact Information**

Glenn Ferri

Email: glenn.s.ferri@census.gov

Phone: 301.763.1456

James Fitzsimmons

Email: james.d.fitzsimmons@census.gov

Phone: 301.763.1465

Peter Way

Email: <a href="mailto:peter.o.way@census.gov">peter.o.way@census.gov</a>

Phone: 301.763.1390

